

{rokbox title=|Distribution map of the stations monitored for population dynamics and installation of larvae collectors :: Image: Authors|
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-can-save-marine-species-affected-by-highly-infective-highly-lethal-waterborne-disease-from-extinctionet-garcia-march-et-al-2020-thumb.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-can-save-marine-species-affected-by-highly-infective-highly-lethal-waterborne-disease-from-extinctionet-garcia-march-et-al-2020.jpg{/rokbox}

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[Can we save a marine species affected by a highly infective, highly lethal, waterborne disease from extinction?](https://doi.org/10.1016/j.biocon.2020.108498)

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Abstract: Anthropogenic drivers and global warming are altering the occurrence of infectious marine diseases, some of which produce mass mortalities with considerable ecosystemic and economic costs. The Mediterranean Sea is considered a laboratory to examine global processes, and the fan mussel *Pinna nobilis* a sentinel species within it. Since September 2016, fan mussels suffer a die-off, very likely provoked by the protozoan *Haplosporidium pinnae*

. Population dynamic surveys, rescue programmes, larvae collector installation and protection of infected adults from predators, have increased knowledge about the factors conditioning the spread of the die-off; previous model simulations indicate that water temperature and salinity seem to be related to the manifestation of the disease, which at the end are strongly influenced by climate change and anthropogenic actions. The absence of natural recruitment implies that fan mussel populations are not recovering, but the survival of populations living in paralic environments provides an opportunity to study the disease and its conditioning factors. The fan mussel disease outbreak provides a case example for how climate change may mediate host-protozoan dynamics and poses several questions: are we witnessing the potential extinction of a sentinel species? Can we avoid it by applying active measures? If so, which measures will be more effective? How many other more overlooked species might experience a massive and unnoticed die-off before it is too late to implement any preservation action? This is

especially relevant because the loss of keystone species can drive to community effects that influence marine ecosystem processes.

Keywords: *Pinna nobilis*, *Haplosporidium pinnae*, Mediterranean endemism, Mass mortality, Protozoan Parasite